

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An analytic device with an automatic pipette, comprising:

a pipette tip receiving element coupled to a mechanism that translates the pipette tip receiving element along at least two of an x-coordinate, a y-coordinate, and a z-coordinate;

wherein the pipette tip receiving element is further operationally coupled to a sensor that detects presence of a disposable polymer pipette tip that is removably coupled to the pipette tip receiving element;

a first optical energy source and a first optical energy detector coupled to the pipette tip receiving element wherein the first optical energy source provides a first optical energy to a volume that is enclosed by the pipette tip, and wherein first energy detector receives at least a portion of the first optical energy from the volume;

a second energy source and a second energy detector coupled to the pipette tip receiving element wherein the second energy source provides a second energy to a surface of a biochip when the pipette tip approaches the surface of the biochip; and

a processor electronically coupled to the first and second energy detectors, wherein the processor controls accurate aspiration of a predetermined volume using a signal from the first detector, and wherein the processor controls movement of the pipette tip along a z-coordinate using a signal from the second detector.
2. (original) The analytic device of claim 1 wherein the first energy source comprises a laser, and wherein the first energy is provided to the volume via a light guide.
3. (original) The analytic device of claim 2 wherein the accurate aspiration is calculated from a reflected light signal that is detected by the first energy detector.
4. (original) The analytic device of claim 2 wherein the second energy source comprises an ultrasound transducer.

5. (original) The analytic device of claim 1 wherein the sensor comprises an optoelectronic sensor.
6. (original) The analytic device of claim 1 wherein the disposable pipette tip has a volume of equal or less than 200 microliter.
7. (original) The analytic device of claim 1 wherein the mechanism comprises a robotic arm that translates the pipette tip receiving element along the x-coordinate, the y-coordinate, and the z-coordinate.
8. (original) The analytic device of claim 1 further comprising a data transfer interface.
9. (original) The analytic device of claim 1 wherein the data transfer interface provides data to a person other than the operator, wherein the person is optionally in a remote location relative to the analytic device.
10. (original) The analytic device of claim 1 further comprising a sample station with a multi-well plate and a multi-reagent pack, wherein the pipette tip removes a fluid from at least one of the multi-well plate and the multi-reagent pack and dispenses the fluid onto the surface of the biochip.
11. (withdrawn) An automatic pipette in an analytic device comprising a disposable pipette tip and a first and a second sensor, wherein the first sensor detects a volume of a liquid within the pipette tip and wherein the second sensor detects a vertical distance between the pipette tip and a biochip that is disposed in the analytic device.
12. (withdrawn) The automatic pipette of claim 11 wherein the pipette tip has a volume of equal or less than 200 microliter.
13. (withdrawn) The automatic pipette of claim 11 wherein the first sensor comprises a laser that delivers a laser beam into the pipette tip.

14. (withdrawn) The automatic pipette of claim 13 wherein the volume of the liquid is determined using at least one of a destructive interference, a constructive interference, a phase modulation, and a triangulation.
15. (withdrawn) The automatic pipette of claim 11 wherein the second sensor comprises an sound transducer that delivers a sound beam to a surface of the biochip.
16. (withdrawn) The automatic pipette of claim 15 wherein the vertical distance is determined using a time-of-flight calculation.
17. (withdrawn) The automatic pipette of claim 11 wherein first and second sensors are coupled to a robotic arm that moves the pipette along at least one of an x-coordinate, a y-coordinate, and a z-coordinate.
18. (withdrawn) The automatic pipette of claim 11 further comprising a third sensor that detects coupling of the disposable pipette tip to the automatic pipette.
19. (withdrawn) The automatic pipette of claim 11 further comprising a data transfer interface.
20. (withdrawn) The automatic pipette of claim 11 wherein the data transfer interface provides data to a person other than the operator, and wherein the person is optionally in a remote location relative to the analytic device.